



## UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Adress: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/588,758	08/08/2006	Naoki Yamaguchi	HOK-0439	2939
74384	7590	03/17/2010	EXAMINER	
Cheng Law Group, PLLC			CERNOCHE, STEVEN MICHAEL	
1100 17th Street, N.W.			ART UNIT	PAPER NUMBER
Suite 503			3752	
Washington, DC 20036				
MAIL DATE		DELIVERY MODE		
03/17/2010		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/588,758	<b>Applicant(s)</b> YAMAGUCHI ET AL.
	<b>Examiner</b> STEVEN CERNOCH	<b>Art Unit</b> 3752

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(o).

#### Status

- 1) Responsive to communication(s) filed on 19 November 2009.  
 2a) This action is FINAL.      2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-13 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-13 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 08 August 2006 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO/GS-68)  
 Paper No(s)/Mail Date \_\_\_\_\_
- 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date \_\_\_\_\_  
 5) Notice of Informal Patent Application  
 6) Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-6 and 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gaw et al. (US Pat No 6,311,903 B1) in view of Coffee et al. (US Pat No 4,962,885) further in view of Garcia et al. (US Pat No 6,460,781 B1).

Re claims 1 and 2, Gaw et al. shows an electrostatic device (Fig. 1 configured and disposed to electrostatically charge and dispense a liquid composition from a supply to a point of dispense, wherein the device comprises: an actuator (11); a high voltage generator (1) to provide a high voltage; a power source (15) to activate said actuator and said high voltage generator; a reservoir (Fig. 3A, 38) to contain the supply of said liquid composition; a means for supplying (6) the liquid composition from the reservoir; said supplying means being mechanically connected to said actuator to be driven thereby (col. 6, lines 7-10); an emitter electrode (3) to electrostatically charge the liquid composition, the emitter electrode being electrically connected (2, 18) to said high voltage generator; and a nozzle (4) to dispense the liquid composition, said nozzle being disposed at the point of dispense; and wherein the reservoir is configured to provide a removable cartridge (col. 4, line 37), said reservoir being deformable according to inner pressure (col. 6, lines 10-11); wherein said device includes a housing (17, 20) carrying said actuator, said high voltage generator, and said power source, said housing being formed with a concavity (col. 4, lines 50-56) for detachably receiving said reservoir, said housing incorporates an electric motor (14) which drives said actuator for operating said supplying means.

Gaw al. does not show wherein the device further comprises a field electrode being connected to the high voltage generator for providing the entire liquid composition with more or less a common electric potential and said reservoir being shaped to have a planar configuration of a general segment of circle defined between a chord and a circumference of an approximate circle which is greater than a circumference of a semicircle, said mouth being disposed at a center of said chord.

However Coffee et al. teaches a device with multiple electrodes, wherein the device further comprises a field electrode (Fig. 2, 9) being connected to the high voltage generator for providing the entire liquid composition with more or less a common electric potential (col. 3, lines 6-8).

While, Garcia et al. teaches said reservoir being shaped to have a planar configuration (Fig. 1a, 13) of a general segment of circle defined between a chord (15) and a circumference of an approximate circle which is greater than a circumference of a semicircle, said mouth being disposed at a center of said chord (14).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have the motivation to modify the sprayer of Gaw et al. with the electrodes of Coffee et al. to form short mobile ligaments which break up at their tips into fine spray (col. 3, lines 11-13) and to produce a charged comminuted material (abstract, lines 2-3) and the reservoir shape of Garcia et al. for its low cost (col. 2, lines 25-26).

Re claim 3, Gaw et al. shows said housing further incorporating therein a frame (Fig. 2A) which mounts said motor as well as said high voltage generator, said frame dividing the interior space of said housing into a front compartment (20) and a rear compartment (17),

said front compartment accommodating said motor (Fig. 1, 14) and said high voltage generator, and said rear compartment defining said concavity for receiving said reservoir.

Re claim 4, Gaw et al. shows wherein said reservoir (Fig. 3A, 38) is coupled to said dispensing unit (4) and is cooperative therewith to define said cartridge.

Gaw et al. does not show said housing comprising a positioning means with which said cartridge detachably engages for resting said reservoir in said concavity, wherein when said cartridge is engaged with said housing, the actuator detachably engaged with a mechanism to activate said supplying means, and a voltage terminal is detachably in contact with said emitter electrode to apply said high voltage to said emitter electrode.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to show said housing comprising a positioning means with which said cartridge detachably engages for resting said reservoir in said concavity, wherein when said cartridge is engaged with said housing, the actuator detachably engaged with a mechanism to activate said supplying means, and a voltage terminal is detachably in contact with said emitter electrode to apply said high voltage to said emitter electrode, since it has been held that rearranging parts of an invention involves only routine skill in the art. In re Japikse, 86 USPQ 70.

Re claim 5, Gaw et al. shows wherein said positioning means is a mount (Fig. 3A, 5) formed at the upper end of said housing on which said dispensing unit rests.

Re claim 6, Gaw et al. shows wherein said voltage terminal (Fig. 1, 2) is located below an opening which is formed in the mount to permit the lower end of said emitter electrode to project through the opening for contact with said voltage terminal when said dispensing unit rests on said mount.

Re claim 9, Gaw et al. shows wherein an inner cover (Fig. 1, 5) is provided to be detachably placed over a top portion of said housing, said inner cover having an opening through which said nozzle (Fig. 2B, 40) extends and defining around said opening a retainer (Fig. 2A, 30) which is placed against a portion of said dispensing unit to hold it in position on said mount.

Re claim 10, Gaw et al. shows wherein said housing is provided with a positioning means (Fig. 2A, 24 and 29) for engagement with said inner cover to retain it on the housing.

Re claim 13, Gaw et al. does teach said field electrode (Fig. 3A, 3) is fixed in said housing around said concavity (10) to surround said reservoir (38) placed into said concavity (10).

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gaw et al. (US Pat No 6,311,903 B1) in view of Coffee et al. (US Pat No 4,962,885) further in view of Garcia et al. (US Pat No 6,460,781 B1) as applied to claims 3 and 9 above, and further in view of Coffee et al. (US Pat No 6,595,208 B1).

Re claim 2, Gaw et al. does not teach wherein said supplying means is a suction pump having a drive element which is driven by said actuator to suck up said liquid composition from said reservoir and forces it out of said nozzle.

However, Coffee et al. does teach wherein said supplying means is a suction pump (col. 2, lines 55-58 and lines 66-67 to col. 3, lines 1-12) having a drive element which is driven by said actuator to suck up said liquid composition from said reservoir and forces it out of said nozzle.

Therefore, it would have been obvious at the time the invention was made to have the motivation to modify the apparatus of Gaw et al. with the pump of Coffee et al. to provide a steady flow of fluid (col. 3, lines 57-58).

Claims 7-8 and 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gaw et al. (US Pat No 6,311,903 B1) in view of Coffee et al. (US Pat No 4,962,885) further in view of Garcia et al. (US Pat No 6,460,781 B1) as applied to claims 3 and 9 above, and further in view of Hartle et al. (US Pat No 5,725,161).

Re claim 7, Gaw et al. shows wherein said housing has a vertical axis (Fig. 1A, **1**) that defines an upper end and a lower end along said vertical axis, but does not teach said high voltage generator comprising a transformer which is arranged in stack with said motor along said vertical axis within said front compartment.

However, Hartle et al. does teach a transformer (column 1, lines 16-19).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have the motivation to modify the sprayer of Gaw et al. with the transformer of Hartle et al. for connection the to charging electrode (column 1, line 17).

Re claim 8, Gaw et al. shows wherein said front compartment accommodates a battery (Fig. 1, 15) energizing the motor (14), said battery being arranged in a side-by-side relation with said motor in a direction perpendicular to said vertical axis and arranged in stack with said transformer along said vertical axis.

Re claim 11, Gaw et al. shows wherein said housing includes a front shell (Fig. 1A) and a rear shell (Fig. 1A), in addition to said frame, said frame carrying said motor, said transformer, and a battery energizing said motor, said front shell being fitted over said frame to define there between said front compartment (20), said rear shell being fitted on said frame

to define there between said rear compartment (17), said front shell being formed with a battery opening through which said battery is placed on said frame, said inner cover (5) shielding said battery opening when attached to said housing.

Re claim 12, Gaw et al. does not show wherein said housing is provided with a button for releasing said inner cover therefrom and with a switch knob for actuating said pump, an outer cover being provided to fit over said inner cover for concealing there behind said dispensing unit, said button, and said switch knob.

However Hartle et al. does teach wherein said housing is provided with a button (Fig. 1, 174) for releasing said inner cover therefrom and with a switch knob (40) for actuating said pump, an outer cover (176) being provided to fit over said inner cover for concealing there behind said dispensing unit, said button, and said switch knob.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have the motivation to modify the sprayer of Gaw et al. with the button, cover and switch of Hartle et al. for control of actuation (column 3, lines 48-55).

#### ***Response to Arguments***

Applicant's arguments with respect to claims 1-13 have been considered but are moot in view of the new ground(s) of rejection.

#### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to STEVEN CERNOCH whose telephone number is (571)270-3540. The examiner can normally be reached on IFP.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Len Tran can be reached on (571)272-1184. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/S. C./  
Examiner, Art Unit 3752

/Dinh Q Nguyen/  
Primary Examiner, Art Unit 3752